

§ 72.72 Material balance, inventory, and records requirements for stored materials.

(a) Each licensee shall keep records showing the receipt, inventory (including location), disposal, acquisition, and transfer of all special nuclear material with quantities as specified in § 74.13(a)(1). The records must include as a minimum the name of shipper of the material to the ISFSI or MRS, the estimated quantity of radioactive material per item (including special nuclear material in spent fuel and reactor-related GTCC waste), item identification and seal number, storage location, onsite movements of each fuel assembly or storage canister, and ultimate disposal. These records for spent fuel and reactor-related GTCC waste at an ISFSI or for spent fuel, high-level radioactive waste, and reactor-related GTCC waste at an MRS must be retained for as long as the material is stored and for a period of five years after the material is disposed of or transferred out of the ISFSI or MRS.

(b) Each licensee shall conduct a physical inventory of all spent fuel, high-level radioactive waste, and reactor-related GTCC waste containing special nuclear material meeting the requirements in paragraph (a) of this section at intervals not to exceed 12 months unless otherwise directed by the Commission. The licensee shall retain a copy of the current inventory as a record until the Commission terminates the license.

(c) Each licensee shall establish, maintain, and follow written material control and accounting procedures that are sufficient to enable the licensee to account for material in storage. The licensee shall retain a copy of the current material control and accounting procedures until the Commission terminates the license.

(d) Records of spent fuel, high-level radioactive waste, and reactor-related GTCC waste containing special nuclear material meeting the requirements in paragraph (a) of this section must be kept in duplicate. The duplicate set of records must be kept at a separate location sufficiently remote from the original records that a single event would not destroy both sets of records. Records of spent fuel or reactor-related

GTCC waste containing special nuclear material transferred out of an ISFSI or of spent fuel, high-level radioactive waste, or reactor-related GTCC waste containing special nuclear material transferred out of an MRS must be preserved for a period of five years after the date of transfer.

[53 FR 31658, Aug. 19, 1988, as amended at 66 FR 51841, Oct. 11, 2001]

§ 72.74 Reports of accidental criticality or loss of special nuclear material.

(a) Each licensee shall notify the NRC Operations Center¹ within one hour of discovery of accidental criticality or any loss of special nuclear material.

(b) This notification must be made to the NRC Operations Center via the Emergency Notification System if the licensee is party to that system. If the Emergency Notification System is inoperative or unavailable, the licensee shall make the required notification via commercial telephonic service or any other dedicated telephonic system or any other method that will ensure that a report is received by the NRC Operations Center within one hour. The exemption of § 73.21(g)(3) of this chapter applies to all telephonic reports required by this section.

(c) Reports required under § 73.71 of this chapter need not be duplicated under the requirements of this section.

[53 FR 31658, Aug. 19, 1988, as amended at 59 FR 14087, Mar. 25, 1994]

§ 72.75 Reporting requirements for specific events and conditions.

(a) Emergency notifications—Each licensee shall notify the NRC Operations Center upon the declaration of an emergency as specified in the licensee's approved emergency plan addressed in § 72.32 of this part. The licensee shall notify the NRC immediately after notification of the appropriate State or local agencies, but not later than one hour after the time the licensee declares an emergency.

(b) Non-emergency notifications: Four-hour reports. Each licensee shall notify the NRC as soon as possible but

¹Commercial telephone number of the NRC Operations Center is (301) 816-5100.

not later than 4 hours after the discovery of any of the following events or conditions involving spent fuel, HLW, or reactor-related GTCC waste:

(1) An event that prevents immediate actions necessary to avoid exposures to radiation or radioactive materials that could exceed regulatory limits, or releases of radioactive materials that could exceed regulatory limits (e.g., events such as fires, explosions, and toxic gas releases).

(2) A defect in any storage structure, system, or component which is important to safety.

(3) A significant reduction in the effectiveness of any storage confinement system during use.

(4) An action taken in an emergency that departs from a condition or a technical specification contained in a license or certificate of compliance issued under this part when the action is immediately needed to protect the public health and safety and no action consistent with license or certificate of compliance conditions or technical specifications that can provide adequate or equivalent protection is immediately apparent.

(5) An event that requires unplanned medical treatment at an offsite medical facility of an individual with radioactive contamination on the individual's clothing or body which could cause further radioactive contamination.

(6) An unplanned fire or explosion damaging any spent fuel, HLW, and/or reactor-related GTCC waste, or any device, container, or equipment containing spent fuel, HLW, and/or reactor-related GTCC waste when the damage affects the integrity of the material or its container.

(c) Non-emergency notifications: Twenty-four hour reports. Each licensee shall notify the NRC within 24 hours after the discovery of any of the following events involving spent fuel, HLW, or reactor-related GTCC waste:

(1) Any unplanned contamination event that requires access to the contaminated area by workers or the public to be restricted for more than 24 hours by imposing additional radiological controls or by prohibiting entry into the area.

(2) An event in which safety equipment is disabled or fails to function as designed when:

(i) The equipment is required by regulation, license condition, or certificate of compliance to be available and operable to prevent releases that could exceed regulatory limits, to prevent exposures to radiation or radioactive materials that could exceed regulatory limits, or to mitigate the consequences of an accident; and

(ii) No redundant equipment was available and operable to perform the required safety function.

(d) Preparation and submission of reports. Reports made by licensees in response to the requirements of this section must be made as follows:

(1) Licensees shall make reports required by paragraphs (a), (b), or (c) of this section by telephone to the NRC Operations Center.¹ To the extent that the information is available at the time of notification, the information provided in these reports must include:

(i) The caller's name and call back telephone number;

(ii) A description of the event, including date and time;

(iii) The exact location of the event;

(iv) The quantities, and chemical and physical forms of the spent fuel, HLW, or reactor-related GTCC waste involved; and

(v) Any personnel radiation exposure data.

(2) *Written report.* Each licensee who makes an initial notification required by paragraphs (a), (b), or (c) of this section also shall submit a written follow-up report within 30 days of the initial notification. Written reports prepared pursuant to other regulations may be submitted to fulfill this requirement if the reports contain all the necessary information and the appropriate distribution is made. These written reports must be sent to the Commission, in accordance with § 72.4. These reports must include the following:

(i) A brief abstract describing the major occurrences during the event, including all component or system failures that contributed to the event and

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significant corrective action taken or planned to prevent recurrence;

(ii) A clear, specific, narrative description of the event that occurred so that knowledgeable readers conversant with the design of ISFSI or MRS, but not familiar with the details of a particular facility, can understand the complete event. The narrative description must include the following specific information as appropriate for the particular event:

(A) ISFSI or MRS operating conditions before the event;

(B) Status of structures, components, or systems that were inoperable at the start of the event and that contributed to the event;

(C) Dates and approximate times of occurrences;

(D) The cause of each component or system failure or personnel error, if known;

(E) The failure mode, mechanism, and effect of each failed component, if known;

(F) A list of systems or secondary functions that were also affected for failures of components with multiple functions;

(G) For wet spent fuel storage systems only, after failure that rendered a train of a safety system inoperable, an estimate of the elapsed time from the discovery of the failure until the train was returned to service;

(H) The method of discovery of each component or system failure or procedural error;

(I)(1) Operator actions that affected the course of the event, including operator errors, procedural deficiencies, or both, that contributed to the event;

(2) For each personnel error, the licensee shall discuss:

(i) Whether the error was a cognitive error (e.g., failure to recognize the actual facility condition, failure to realize which systems should be functioning, failure to recognize the true nature of the event) or a procedural error;

(ii) Whether the error was contrary to an approved procedure, was a direct result of an error in an approved procedure, or was associated with an activity or task that was not covered by an approved procedure;

(iii) Any unusual characteristics of the work location (e.g., heat, noise) that directly contributed to the error; and

(iv) The type of personnel involved (e.g., contractor personnel, utility-licensed operator, utility nonlicensed operator, other utility personnel);

(J) Automatically and manually initiated safety system responses (wet spent fuel storage systems only);

(K) The manufacturer and model number (or other identification) of each component that failed during the event;

(L) The quantities, and chemical and physical forms of the spent fuel, HLW, or reactor-related GTCC waste involved;

(3) An assessment of the safety consequences and implications of the event. This assessment must include the availability of other systems or components that could have performed the same function as the components and systems that failed during the event;

(4) A description of any corrective actions planned as a result of the event, including those to reduce the probability of similar events occurring in the future;

(5) Reference to any previous similar events at the same facility that are known to the licensee;

(6) The name and telephone number of a person within the licensee's organization who is knowledgeable about the event and can provide additional information concerning the event and the facility's characteristics;

(7) The extent of exposure of individuals to radiation or to radioactive materials without identification of individuals by name.

[59 FR 64285, Dec. 14, 1994, as amended at 64 FR 33183, June 22, 1999; 66 FR 51841, Oct. 11, 2001]

§ 72.76 Material status reports.

(a) Except as provided in paragraph (b) of this section, each licensee shall complete, in computer-readable format, and submit to the Commission a material status report in accordance with instructions (NUREG/BR-0007 and NMMSS Report D-24 "Personal Computer Data Input for NRC Licensees").